

**IN THE CLAIMS:**

Please amend the claims as follows:

Claims 1-13 (canceled).

14. (previously presented) A nucleic acid of ORF-R of Human

Immunodeficiency Virus Type 1 (HIV-1) comprising the sequence:

8250	8260	8270	8280	8290	8300
GA	CAGGGCTTGG	AAAGGATTTT	GCTATAAGAT	GGGTGGCAAG	TGGTCAAAAA
8310	8320	8330	8340	8350	
GTAGTGTGGT	TGGATGGCCT	ACTGTAAGGG	AAAGAATGAG	ACGAGCTGAG	
8360	8370	8380	8390	8400	
CCAGCAGCAG	ATGGGGTGGG	AGCAGCATCT	CGAGACCTGG	AAAAACATGG	
8410	8420	8430	8440	8450	
AGCAATCACA	AGTAGCAATA	CAGCAGCTAC	CAATGCTGCT	TGTGCCCTGGC	
8460	8470	8480	8490	8500	
TAGAAGCACA	AGAGGAGGAG	GAGGTGGGTT	TTCCAGTCAC	ACCTCAGGTA	
8510	8520	8530	8540	8550	
CCTTTAAGAC	CAATGACTTA	CAAGGCAGCT	GTAGATCTTA	GCCACTTTTT	
8560	8570	8580	8590	8600	
AAAAGAAAAG	GGGGGACTGG	AAGGGCTAAT	TCACTCCCAA	CGAAGACAAG	
8610	8620	8630	8640	8650	
ATATCCTTGA	TCTGTGGATC	TACCACACAC	AAGGCTACTT	CCCTGATTGG	
8660	8670	8680	8690	8700	
CAGAACTACA	CACCAGGGCC	AGGGGTCAGA	TATCCACTGA	CCTTTGGATG	
8710	8720	8730	8740	8750	
GTGCTACAAG	CTAGTACCAG	TTGAGCCAGA	TAAGGTAGAA	GAGGCCAATA	
8760	8770	8780	8790	8800	
AAGGAGAGAA	CACCAGCTTG	TTACACCCTG	TGAGCCTGCA	TGGAATGGAT	
8810	8820	8830	8840	8850	
GACCCGTGAG	GAGAAGTGTT	AGAGTGGAGG	TTTGACAGCC	GCCTAGCATT	

8860 8870 8890 8900  
TCATCACGTG GCCCGAGAGC TGCATCCGGA GTACTTCAAG AACTGC,

wherein the nucleic acid is in an expression vector that expresses a protein comprising the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRRAEPADGVGAASRDLEKHGAITSNTAAT  
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLGLIHSQRRQDI  
LDLWIYHTQGYPDWQNYTPGPGVRYPLTFGWICYKLPVEPDKVEEANKGENTSLLH  
PVSLHGMDPPEREVLEWRFDLSRLAFHHVARELHPEYFKNC.

15. (previously presented) The nucleic acid of claim 14, wherein the nucleic acid is in a eukaryotic expression vector.

16. (previously presented) A nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) comprising the sequence:

8250 GA	8260 CAGGGCTTGG	8270 AAAGGATTTT	8280 GCTATAAGAT	8290 GGGTGGCAAG	8300 TGGTCAAAAA
8310 GTAGTGTGGT	8320 TGGATGGCCT	8330 ACTGTAAGGG	8340 AAAGAATGAG	8350 ACGAGCTGAG	
8360 CCAGCAGCAG	8370 ATGGGGTGGG	8380 AGCAGCATCT	8390 CGAGACCTGG	8400 AAAAACATGG	
8410 AGCAATCACA	8420 AGTAGCAATA	8430 CAGCAGCTAC	8440 CAATGCTGCT	8450 TGTGCTTGCC	
8460 TAGAAGCACA	8470 AGAGGAGGAG	8480 GAGGTGGGTT	8490 TTCCAGTCAC	8500 ACCTCAGGTA	
8510 CCTTTAAGAC	8520 CAATGACTTA	8530 CAAGGCAGCT	8540 GTAGATCTTA	8550 GCCACTTTTT	
8560 AAAAGAAAAG	8570 GGGGGACTGG	8580 AAGGGCTAAT	8590 TCACTCCCAA	8600 CGAAGACAAG	
8610 ATATCCTTGA	8620 TCTGTGGATC	8630 TACCACACAC	8640 AAGGCTACTT	8650 CCCTGATTGG	

8660	8670	8680	8690	8700
CAGAACTACA	CACCAAGGCC	AGGGGTCAGA	TATCCACTGA	CCTTTGGATG
8710	8720	8730	8740	8750
GTGCTACAAG	CTAGTACCAG	TTGAGCCAGA	TAAGGTAGAA	GAGGCCAATA
8760	8770	8780	8790	8800
AAGGAGAGAA	CACCAGCTTG	TTACACCCTG	TGAGCCTGCA	TGGAATGGAT
8810	8820	8830	8840	8850
GACCCTGAGA	GAGAAGTGT	AGAGTGGAGG	TTTGACAGCC	GCCTAGCATT
8860	8870	8890	8900	
TCATCACGTG	GCCCCAGAGC	TGCATCCGGA	GTACTTCAAG	AACTGC,

wherein the nucleic acid is in a yeast expression vector that expresses a protein comprising the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRRAEPADGVGAASRDLEKHGAITSSNTAAT  
 NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLGLELIHSQRRQDI  
 LDLWIYHTQGYPDWQNYTPGPGVRYPLTFGWICYLVPVEPDKVEEANKGENTSLLH  
 PVSLHGMDPPEREVLEWRFRDSRLAFHHVARELHPEYFKNC.

17. (previously presented) A recombinant prokaryotic expression vector comprising a nucleic acid fragment of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the vector expresses a protein comprising the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRRAEPADGVGAASRDLEKHGAITSSNTAAT  
 NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLGLELIHSQRRQDI  
 LDLWIYHTQGYPDWQNYTPGPGVRYPLTFGWICYLVPVEPDKVEEANKGENTSLLH  
 PVSLHGMDPPEREVLEWRFRDSRLAFHHVARELHPEYFKNC.

18. (previously presented) A recombinant *E. coli* expression vector comprising a nucleic acid fragment of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the vector expresses a protein comprising the amino acid sequence:

FINNEGAN  
 HENDERSON  
 FARABOW  
 GARRETT &  
 DUNNER LLP

1300 I Street, NW  
 Washington, DC 20005  
 202.408.4000  
 Fax 202.408.4400  
 www.finnegan.com

MGGKWSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAAT  
 NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI  
 LDLWIYHTQGYPDWQNYTPGPGVRYPLTFGWICYKLVPEPDKVEEANKGENTSLLH  
 PVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNC.

19. (previously presented) A recombinant yeast expression vector comprising a nucleic acid fragment of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the vector expresses a protein comprising the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAAT  
 NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI  
 LDLWIYHTQGYPDWQNYTPGPGVRYPLTFGWICYKLVPEPDKVEEANKGENTSLLH  
 PVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNC.

20. (previously presented) A nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) comprising the sequence:

8250	8260	8270	8280	8290	8300
GA	CAGGGCTTGG	AAAGGATTTT	GCTATAAGAT	GGGTGGCAAG	TGGTCAAAAA
8310	8320	8330	8340	8350	
GTAGTGTGGT	TGGATGGCCT	ACTGTAAGGG	AAAGAATGAG	ACGAGCTGAG	
8360	8370	8380	8390	8400	
CCAGCAGCAG	ATGGGGTGGG	AGCAGCATCT	CGAGACCTGG	AAAAACATGG	
8410	8420	8430	8440	8450	
AGCAATCACA	AGTAGCAATA	CAGCAGCTAC	CAATGCTGCT	TGTGCCTGGC	
8460	8470	8480	8490	8500	
TAGAAGCACA	AGAGGAGGAG	GAGGTGGGTT	TTCCAGTCAC	ACCTCAGGTA	
8510	8520	8530	8540	8550	
CCTTTAAGAC	CAATGACTTA	CAAGGCAGCT	GTAGATCTTA	GCCACTTTTT	
8560	8570	8580	8590	8600	
AAAAGAAAAG	GGGGGACTGG	AAGGCTAAT	TCACCTCCAA	CGAAGACAAG	

8610	8620	8630	8640	8650
ATATCCTTGA	TCTGTGGATC	TACCACACAC	AAGGCTACTT	CCCTGATTTG
8660	8670	8680	8690	8700
CAGAACTAGA	CACCAGGGCC	AGGGGTCAGA	TATCCACTGA	CCTTTGGATG
8710	8720	8730	8740	8750
GTGCTACAAG	CTAGTACCAG	TTGAGCCAGA	TAAGGTAGAA	GAGGCCAATA
8760	8770	8780	8790	8800
AAGGAGAGAA	CACCAGCTTG	TTACACCCTG	TGAGCCTGCA	TGGAATGGAT
8810	8820	8830	8840	8850
GACCCTGAGA	GAGAAGTGTT	AGAGTGGAGG	TTTGACAGCC	GCCTAGCATT
8860	8870	8890	8900	
TCATCACGTG	GCCCCGAGAGC	TGCATCCGGA	GTACTTCAG	AACTGC,

wherein the sequence is linked to a promoter in an expression vector that allows the expression of a protein comprising the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRRAEPADGVGAASRDLEKHGAITSSNTAAT  
 NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLGLIHSQRRQDI  
 LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH  
 PVSLHGMDDPEREVLEWRFDLSRLAFHHVARELHPEYFKNC.

21. (previously presented) The nucleic acid of claim 20, wherein the nucleic acid is linked to a promoter in a prokaryotic expression vector.

22. (previously presented) The nucleic acid of claim 21, wherein the nucleic acid is linked to a promoter in an *E. coli* expression vector.

23. (previously presented) The nucleic acid of claim 20, wherein the nucleic acid is linked to a promoter in a yeast expression vector.

24. (previously presented) The nucleic acid of claim 20, wherein the nucleic acid is linked to a promoter in a mammalian expression vector.

25. (previously presented) An isolated nucleic acid that expresses Nef protein of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the sequence hybridizes under stringent conditions to a DNA comprising the sequence :

8250	8260	8270	8280	8290	8300
GA	CAGGGCTTGG	AAAGGATTTT	GCTATAAGAT	GGGTGGCAAG	TGGTCAAAAA
8310	8320	8330	8340	8350	
GTAGTGTGGT	TGGATGGCCT	ACTGTAAGGG	AAAGAATGAG	ACGAGCTGAG	
8360	8370	8380	8390	8400	
CCAGCAGCAG	ATGGGGTGGG	AGCAGCATCT	CGAGACCTGG	AAAAACATGG	
8410	8420	8430	8440	8450	
AGCAATCACA	AGTAGCAATA	CAGCAGCTAC	CAATGCTGCT	TGTGCCTGGC	
8460	8470	8480	8490	8500	
TAGAAGCACA	AGAGGAGGAG	GAGGTGGGTT	TTCCAGTCAC	ACCTCAGGTA	
8510	8520	8530	8540	8550	
CCTTTAAGAC	CAATGACTTA	CAAGGCAGCT	GTAGATCTTA	GCCACTTTTT	
8560	8570	8580	8590	8600	
AAAAGAAAAG	GGGGGACTGG	AAGGGCTAAT	TCACTCCCAA	CGAAGACAAG	
8610	8620	8630	8640	8650	
ATATCCTTGA	TCTGTGGATC	TACCACACAC	AAGGCTACTT	CCCTGATTGG	
8660	8670	8680	8690	8700	
CAGAACTACA	CACCAGGGCC	AGGGGTCAGA	TATCCACTGA	CCTTTGGATG	
8710	8720	8730	8740	8750	
GTGCTACAAG	CTAGTACCAG	TTGAGCCAGA	TAAGGTAGAA	GAGGCCAATA	
8760	8770	8780	8790	8800	
AAGGAGAGAA	CACCAGCTTG	TTACACCCTG	TGAGCCTGCA	TGGAATGGAT	
8810	8820	8830	8840	8850	
GACCCTGAGA	GAGAAGTGTT	AGAGTGGAGG	TTTGACAGCC	GCCTAGCATT	
8860	8870	8890	8900		
TCATCAGTGT	GCCCAGAGAG	TGCATCCGGA	GTACTTCAAG	AACTGC.	

26. (canceled)

27. (previously presented) An isolated nucleic acid that encodes the following amino acid sequence:

MGGKWSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAATNAACA  
WLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWI  
YHTQGYFPDWQNYTPGPGVRYPLTFGWICYKLVPEPDKVEEANKGENTSLLHPVSL  
HGMDPPEREVLEWRFD SRLAFHHVARELHPEYFKNC .

28. (previously presented) A method of expressing an HIV-1 protein comprising inserting a recombinant nucleic acid molecule that encodes the following amino acid sequence:

MGGKWSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAATNAACA  
WLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWI  
YHTQGYFPDWQNYTPGPGVRYPLTFGWICYKLVPEPDKVEEANKGENTSLLHPVSL  
HGMDPPEREVLEWRFD SRLAFHHVARELHPEYFKNC

into a host cell under conditions suitable for the expression of the amino acid sequence .

29. (previously presented) A method of making a recombinant nucleic acid molecule that encodes the following amino acid sequence:

MGGKWSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAATNAACA  
WLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWI  
YHTQGYFPDWQNYTPGPGVRYPLTFGWICYKLVPEPDKVEEANKGENTSLLHPVSL  
HGMDPPEREVLEWRFD SRLAFHHVARELHPEYFKNC

comprising replicating the recombinant nucleic acid molecule in a host cell.

FINNEGAN  
HENDERSON  
FARABOW  
GARRETT &  
DUNNER LLP

1300 I Street, NW  
Washington, DC 20005  
202.408.4000  
Fax 202.408.4400  
www.finnegan.com